

REMARKS

Claims 1-12 and 14-22 are pending herein.

By this Amendment, claims 12 and 14-16 have been amended to more fully distinguish the invention of the claims over the teachings of the prior art references cited against these claims. Claim 13 has been canceled.

No new matter is added by the Amendment. Support for the amendments to the claims is found in the original specification and original claims. In particular, support for the language added to claim 12 may be found in original claim 13 as well as at, for example, pages 15-17 of the specification. Support for the language added to claims 14-16 may be found in original claims 12 and 13 as well as at, for example, pages 15-17 of the specification.

I. Allowable Subject Matter

Applicant notes with appreciation that claim 7 was objected to but would be allowable if rewritten in independent form including all the limitations of the base claim and any intervening claims.

II. Claim Rejections Under 35 U.S.C. §102

A. U.S. Patent No. 5,232,562 to Elliott

Claims 12-17 and 19-22 were rejected under 35 U.S.C. §102(b) as allegedly being anticipated by U.S. Patent No. 5,232,562 (Elliott). This rejection is respectfully traversed.

Claim 12 recites a soldering device comprising a flow soldering section for bonding a second electronic component to an interconnect substrate to which a first electronic component having electrodes plated with a material containing lead is bonded, the first electronic component being bonded to one surface of an interconnect substrate through solder containing no lead, the second electronic component being bonded to the other surface of the interconnect substrate; wherein the flow soldering section includes a heater disposed on the

side of the one surface of the interconnect substrate; wherein the flow soldering section has a solder supplying section disposed on the side of the other surface of the interconnect substrate; and wherein the heater is disposed right above the solder supplying section such that the heater melts a joint section between the first electronic component and the interconnect substrate at the same time that the second electronic component is bonded to the interconnect substrate.

Claim 15 and 16 each also recite that the heater is disposed right above the solder supplying section. Claim 14 recites that the heater is downstream from the solder supplying section.

Elliott discloses the application of electro-chemical reduction treatment liquids and electroless reduction treatment liquids to elements such as circuit boards for cleaning metallic surfaces in preparation for soldering by using a wave of the treatment liquid over a liquid tank. See the Abstract. Elliot also discloses a preheating zone utilized within the soldering chamber with heaters 50 positioned below the conveyor line 14 (see Fig. 1) and heaters 53 positioned above and below the conveyor line 14 before the solder wave (see Fig. 3).

Nowhere does Elliott disclose the soldering device structure as defined by claims 12 and 14-16. Specifically, nowhere does Elliot disclose that the heater is disposed right above the solder supplying section, as recited by claims 12, 15 and 16. Nor does Elliot disclose that the heater is down stream from the solder supplying section, as recited by claim 14.

Accordingly, Elliot does not teach or suggest the subject matter of claims 12 and 14-16. For the foregoing reasons, Applicant respectfully submits that Elliott fails to anticipate the subject matter of claims 12 and 14-16 or any of depending claims 17 and 19-22.

Reconsideration and withdrawal of this rejection are respectfully requested.

B. U.S. Patent No. 5,230,460 to Deambrosio et al.

Claims 12-22 were rejected under 35 U.S.C. §102(b) as allegedly being anticipated by U.S. Patent No. 5,230,460 (Deambrosio). This rejection is respectfully traversed.

Deambrosio teaches a preheater for a wave soldering machine having high volume convection heating permitting components on circuit boards to be heated to more uniform temperatures throughout the assembly. More specifically, Deambrosio teaches a plurality of heating zones in a housing extending along a conveyor. Dividers are provided between the heating zones.

Nowhere does Deambrosio disclose that the heater is disposed right above the solder supplying section, as recited in claims 12, 15 and 16. Nor does Deambrosio disclose that the heater is down stream from the solder supplying section, as recited by claim 14.

Thus, Deambrosio fails to teach or suggest the subject matter of claims 12 and 14-16 and any of depending claims 17-22. Reconsideration and withdrawal of this rejection are thus respectfully requested.

C. U.S. Publication No. 2002/0130163 to Nakatsuka

Claims 1-6, 8-16 and 18-22 were rejected under 35 U.S.C. §102(e) as allegedly being anticipated by U.S. Publication No. 2002/0130163 (Nakatsuka). However, in an August 11, 2003, telephone conversation with the Examiner, the Examiner stated this rejection was incorrectly phrased. Further, the Examiner stated that the rejection should have instead read that claims 1-6, 8-16 and 18-22 are rejected under 35 U.S.C. §102(e) as being anticipated by U.S. Publication No. 2003/0034381 (Nakatsuka).

D. U.S. Publication No. 2003/0034381 to Nakatsuka

Claims 1-6, 8-16 and 18-22 were rejected under 35 U.S.C. §102(e) as allegedly being anticipated by U.S. Publication No. 2003/0034381 (Nakatsuka). This rejection is respectfully traversed.

A 35 U.S.C. §102(e) rejection can be overcome by antedating the filing date of the reference by Applicant's earlier foreign priority application if the requirements under 35 U.S.C. § 119 is met and the foreign application supports all the claims of the U.S. application and conforms to 35 U.S.C. § 112, first paragraph, requirements. *In re Gosteli*, 872 F.2d 1008, 10 USPQ2d 1614 (Fed. Cir. 1989).

The present application claims priority to JP 2001-75534 filed on March 15, 2001. Applicant submits the present application has an earlier filing date than Nakatsuka filed on August 13, 2001.

Applicant herewith submits a verified English-language translation of JP 2001-75534 and submits that JP 2001-75534 satisfies the enablement and written description requirements of 35 U.S.C. § 112, first paragraph and supports the present claims. Accordingly, the present application properly antedates the cited reference.

Reconsideration and withdrawal of this rejection are thus respectfully requested.

III. Claim Rejections Under 35 U.S.C. §103(a)

Claim 17 was rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over Nakatsuka in view of U.S. Patent No. 6,257,480 (Furumoto). This rejection is respectfully traversed.

As Nakatsuka is not a proper prior art reference as discussed above, this rejection is moot. Reconsideration and withdrawal of this rejection are respectfully requested.

IV. Double Patenting

The Office Action provisionally rejected claims 12, 17, 18, 20 and 22 under the judicially created doctrine of obviousness-type double patenting as allegedly being unpatentable over claims 10, 14, 15, 17 and 21 of copending Application No. 10/079,432.

Applicant notes that the present application has a priority date of March 16, 2001, which is prior to the priority date of copending Application No. 10/079,432. Accordingly,

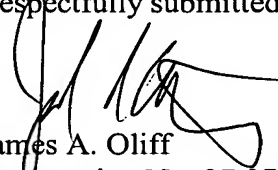
once all other issues in this present application have been disposed of, Applicant submits that the Examiner should withdraw the double patenting rejection in the present application and allow the present application to issue.

V. Conclusion

In view of the foregoing remarks, Applicant submits this application is in condition for allowance. Favorable reconsideration and prompt allowance of claims 1-12 and 14-22 are earnestly solicited.

Should the Examiner believe that anything further would be desirable in order to place this application in better condition for allowance, the Examiner is invited to contact Applicant's undersigned representative at the telephone number set forth below.

Respectfully submitted,


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JAO:JSA:LMS/rav

Attachment:

Verified English Language Translation of
Japanese Priority Application No.: 2001-75534

Date: October 7, 2003

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